WESTON MANAGERS DESIGNERS/CONSULTANTS
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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

TO: Dan Harkay, USEPA Region II

FROM: Tom O'Neill, TAT PM (TO)
Michael Mentzel, TAT QC MM

> memo from D.H. to RTSDR

SUBJECT: Mercury Analytical Results for Soil Samples Collected on 14 May 1992

SITE: Ideal Cooperage, Jersey City, New Jersey

TDD #: 02-9202-0001

DATE: 31 July 1992

Attached is the complete analytical data package received from the Roy F. Weston, Inc. laboratory on 29 May 1992 (Attachment A). The data is for the soil samples collected 14 May, 1992, at the Ideal Cooperage site, Jersey City, NJ, in the area of test pit #4. The sample data have been validated by the TAT inorganic data validator and found to be within all applicable quality assurance and quality control guidelines.

The Ideal Cooperage site is located at 39 New York Avenue, Jersey City, NJ. The site was used as an empty drum storage area by Ideal Cooperage Inc., who operated a steel drum reconditioning facility on an adjacent property. The site is approximately 1.3 acres in size and is relatively flat, with almost its entire perimeter steeply sloped downward from the property line on the south and west. Low brush and small trees cover the site. The site is fenced except on the south and there are no buildings or activity on the property. The site is bordered on the west and north by New York Avenue, on the south by the Conrail railroad line, and on the east by Sal-Son Trucking Company, Inc. The nearest residential areas are located approximately 1,000 feet from the site.

In May 1991, six test pit excavations were performed at various locations throughout the site as part of an EPA removal action. Surface and subsurface soil samples were collected at depths of 0 to 7.5 feet and submitted for laboratory analysis. The analysis revealed relatively low levels of organic compounds and metals, except for test pit #4, in which mercury was detected at 517 ppm at the 0-0.5 ft. depth. The mercury concentrations at the other five test pits ranged from <.01 ppm to 2.94 ppm. On 11 October 1991, three surface soil samples were collected in the area of test pit #4 to verify the original sample results. Analysis revealed

three surface soil samples were collected in the area of test pit #4 to verify the original sample results. Analysis revealed concentrations of 28.5 ppm, 113 ppm and 292 ppm of mercury.

On 14 May 1992, TAT and EPA returned to the site to further define the extent of mercury contamination at test pit #4. A systematic sampling grid measuring 60 feet by 60 feet was used to collect samples. Grid nodes were established at 10-foot intervals. All samples collected were analyzed for total mercury, additionally, samples from the grid nodes in the center of the grid system were analyzed for total inorganic mercury. Surface soil samples were collected at all locations and subsurface soil samples (12" depth) were collected at locations C-3A, C-4A, D-4A, D-5A and E-4A.

The greatest concentration of mercury (481 ppm total mercury) was found at location D-4 in the center of test pit #4. The concentration of mercury at D-4A was 25.8 ppm. The concentrations of mercury at the other locations tend to decrease away from the center of the test pit and with depth as shown when plotted on the original sampling grid (Attachment B).

At sample locations C-4 and E-3 the value for inorganic mercury exceeds the value for total mercury. As explained in the laboratory's analytical case narrative, the mercury at these locations can be assumed to be in the inorganic form.

Please call me if you have any questions.

Attachments:

cc: TAT PM
TDD File

ATTACHMENT A

SAMPLE RESULTS

SAMPLE ANALYSES AND COLLECTION TIMES
MAY 14, 1992 SAMPLING

SAMPLE NUMBER	TYPE OF SAMPLE	TYPE OF ANALYSIS		COLLECTION TIME
		TOTAL Hg	INORGANIC Hg	
A-1	SURFACE	X		1050
A-4	"	X		1045
A-7	"	X		1045
C-2	SURFACE	X		1100
C-3	"	X	X	0915
C-3A	SUBSURFACE	X		1015
C-4	SURFACE	X	X	0915
C-4A	SUBSURFACE	X		1015
C-5	SURFACE	X	X	0920
C-6	"	X		1040
C-7	"	X		1120
D-1	SURFACE	X		1055
D-2	"	X		1110
D-3	"	X	X	0920
D-4	"	X	X	0915
D-4A	SUBSURFACE	X		1020
D-5	SURFACE	X	X	0920
D-5A	SUBSURFACE	X		1020
D-6	SURFACE	X		1040
E-2	SURFACE	X		1110
E-3	"	X	X	0920
E-4	"	X	X	0915
E-4A	SUBSURFACE	X		1030
E-5	SURFACE	X	X	0925
E-6	"	X		1040
F-3	SURFACE	X		1105
F-4	"	X		1105
F-5	"	X		1105
G-1	SURFACE	X		1055
G-4	"	X		1100
G-7	"	X		1055

MERCURY SOIL SAMPLE ANALYSES
MAY 14, 1992 SAMPLING

SAMPLE NUMBER	TYPE OF SAMPLE	TYPE OF ANALYSIS		SAMPLE RESULTS	
		TOTAL Hg	INORGANIC Hg	TOTAL (MG/KG)	INORGANIC (MG/KG)
A-1	SURFACE	X		0.63	
A-4	"	X		1.6	
A-7	"	X		0.9	
C-2	SURFACE	X		2.4	
C-3	"	X	X	7.7	5.0
C-3A	SUBSURFACE	X		10.4	
C-4	SURFACE	X	X	88.8J	107J
C-4A	SUBSURFACE	X		4.4	
C-5	SURFACE	X	X	14.4	3.0
C-6	"	X		1.4	
C-7	"	X		1.5	
D-1	SURFACE	X		2.0	
D-2	"	X		3.4	
D-3	"	X	X	1.4	1.8
D-4	"	X	X	481	456
D-4A	SUBSURFACE	X		25.8	
D-5	SURFACE	X	X	30.2	24.4
D-5A	SUBSURFACE	X		13.4	
D-6	SURFACE	X		3.1	
E-2	SURFACE	X		2.7	
E-3	"	X	X	4.3R	7.0R
E-4	"	X	X	12.3	6.7
E-4A	SUBSURFACE	X		1.1	
E-5	SURFACE	X	X	21.8	18.7
E-6	"	X		12.8	
F-3	SURFACE	X		3.1	
F-4	"	X		36.8	
F-5	"	X		31.2	
G-1	SURFACE	X		2.0	
G-4	"	X		9.1	
G-7	"	X		11.0	
Z-1 Field Blank	Aqueous	X		0.2 ug/kg J	

KEY

J = Value Estimated. For C-4, Inorganic Hg > 10% Total Hg
For Z-1, CRDL standard recovery out of control

R = Value Rejected, Inorganic Hg > 50% Hg

NOTE

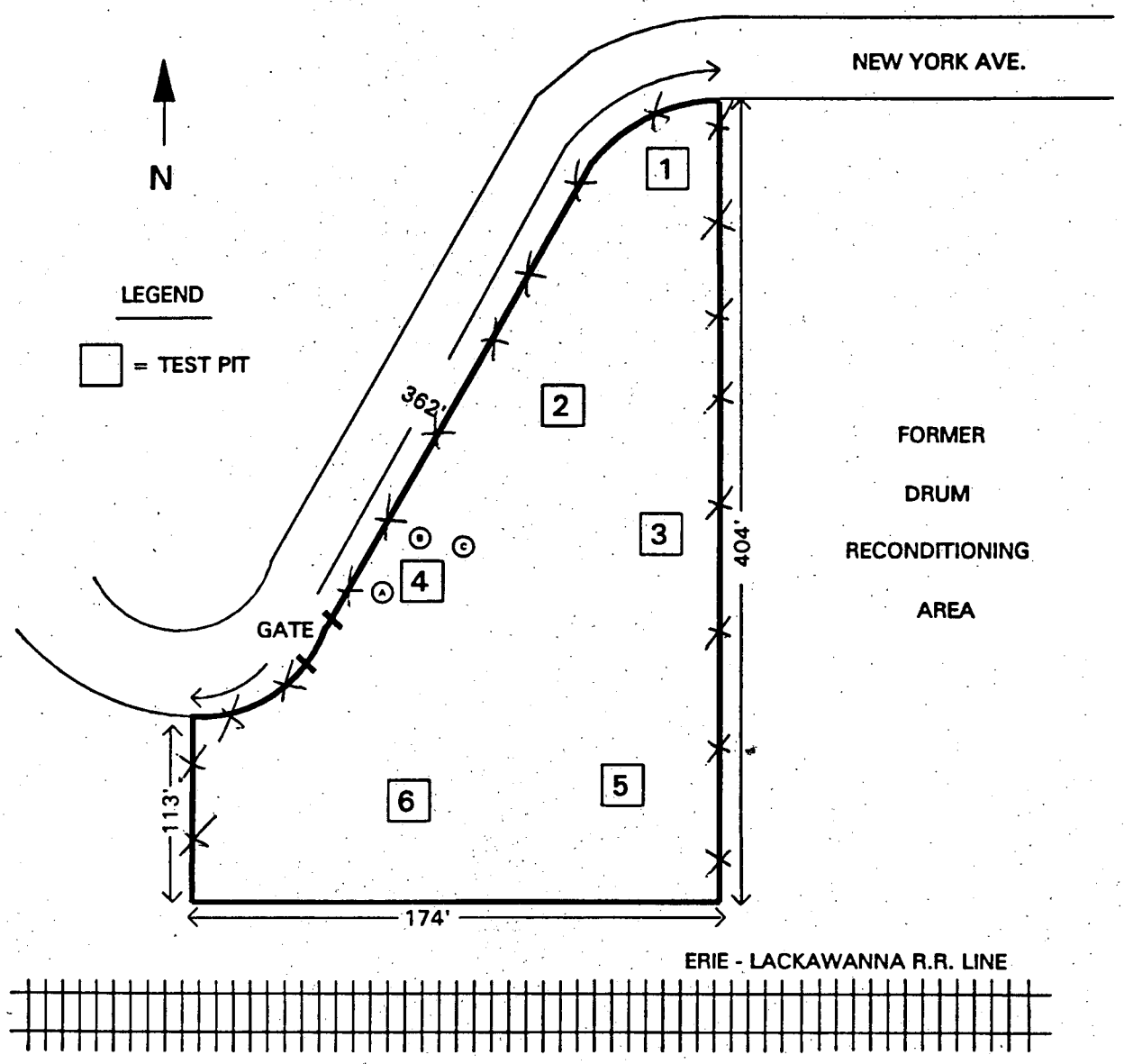
Surface samples collected at 0-6" depth. Subsurface samples collected at 12-18" depth.

ATTACHMENT B

SAMPLING GRID

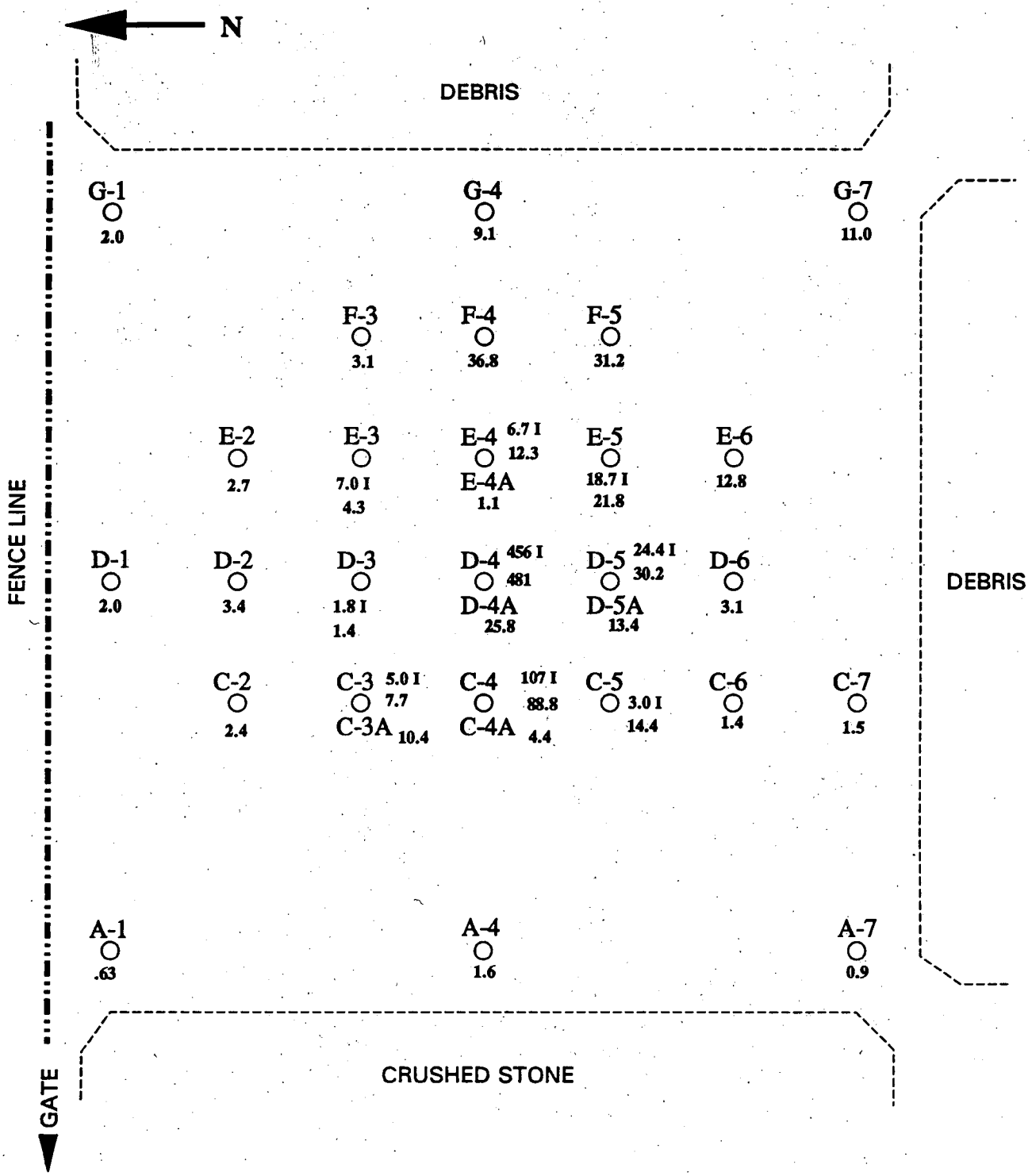
Site maps

WESTON MANAGERS DESIGNERS CONSULTANTS Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM D. HARKAY	IDEAL COOPERAGE SITE JERSEY CITY, NJ
IN ASSOCIATION WITH FOSTER WHEELER CORP., C.C JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES	TAT PM P. DI PASCA	FIGURE 1 LOCATION MAP



NOTES: ××× chain link fence

WESTON MANAGERS DESIGNERS/CONSULTANTS	Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM D. HARKAY	IDEAL COOPERAGE SITE JERSEY CITY, NJ
IN ASSOCIATION WITH FOSTER WHEELER CORP., C.C JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES		TAT PM P. DI PASCA	FIGURE 3 TEST PIT LOCATION MAP



Note* I = TOTAL INORGANIC Hg - ALL OTHER VALVES ARE TOTAL Hg

WESTON MANAGERS DESIGNERS/CONSULTANTS Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM D. HARKAY	IDEAL COOPERAGE SITE JERSEY CITY, NJ
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MERCURY SOIL SAMPLE ANALYSES
MAY 14, 1992 SAMPLING

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C-5	SURFACE	X	X	14.4	3.0
C-6	"	X		1.4	
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D-3	"	X	X	1.4	1.8
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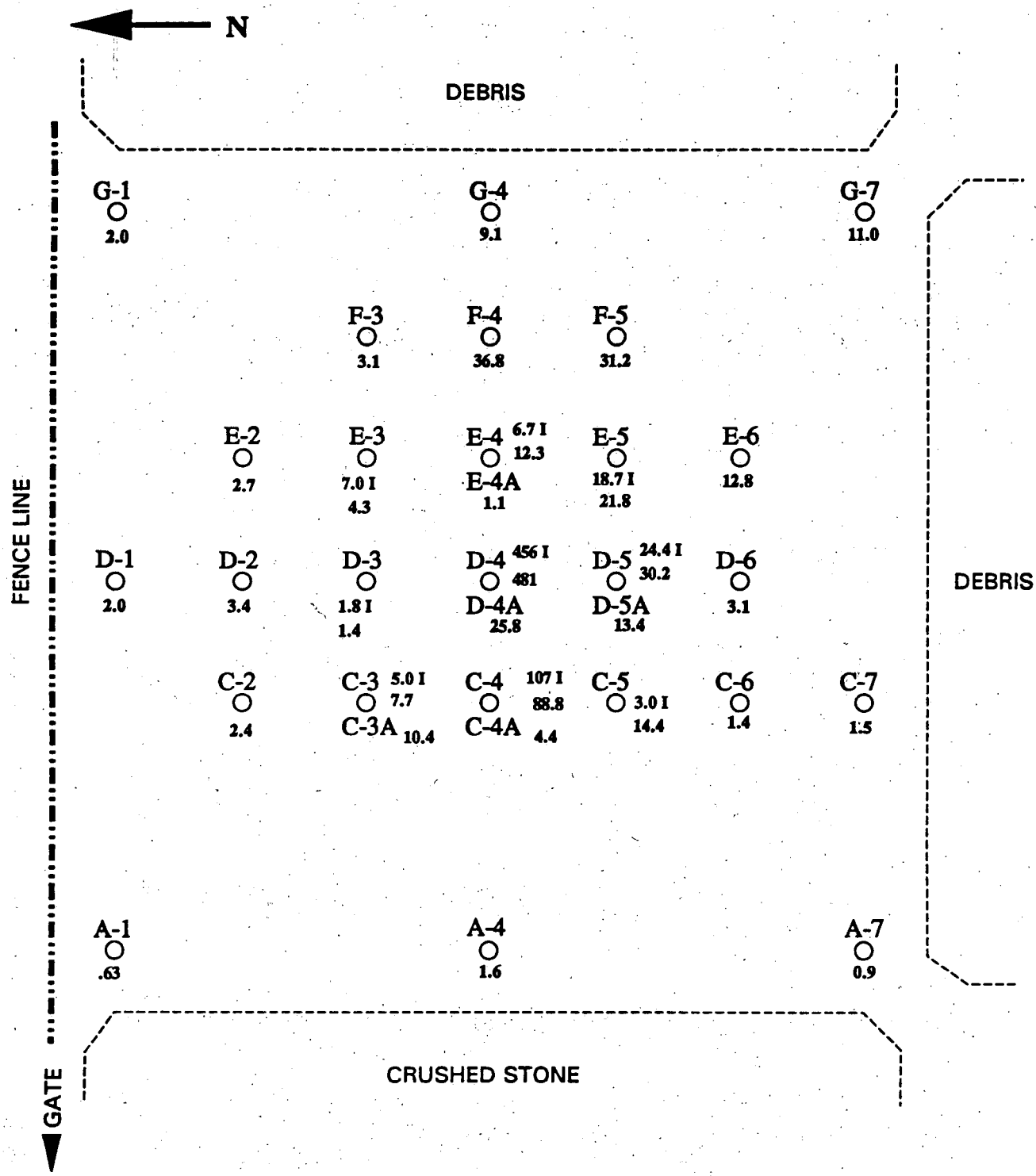

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IN ASSOCIATION WITH FOSTER WHEELER CORP., C.C JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES	TAT PM T. O'NEILL	SAMPLING GRID DIAGRAM AREA TP-4

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